

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Gerhard GEYER
Based on : PCT/DE 03/02530
Filed : April 25, 2005
For : FUEL INJECTION SYSTEM WITH INTEGRATED
PRESSURE BOOSTER

Docket No. : R.303670

Customer No. : 02119

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

**INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR 1.97(b),
AND EXPLANATION OF THE RELEVANCE OF THE CITED PRIOR ART**

Sir:

The undersigned hereby requests that the prior art cited on the attached prior art statement be placed of record in the application file and be considered by the examiner.

This citation of prior art is made under 37 CFR 1.97(b), since it is being filed within three months of the filing date and before the mailing of a first Office action.

The relevance of the prior art cited on the attached form PTO/SB/08a is as follows:

Appl. No. Unknown
Based on PCT/DE 03/02530
Prior to first Office Action

DE 101 23 911 A1

This patent teaches a fuel injection device for an internal combustion engine. The device has a fuel injector supplied by a high pressure fuel source and a pressure amplifier with a movable piston between the injector and the source. The piston separates a chamber connected to the source from a high pressure chamber connected to the injector and from a return chamber. The high pressure chamber (40) can be connected to the return chamber (38) via a fuel line (46). An Independent claim is also included for a pressure transfer device.

US 2004/0046061 A1

This patent is in the same family as DE 101 23 911 A1 and is provided as an aid to the examiner.

DE 1 040 526

No translation available. Cited to show the state of the art.

DE 199 39 428 A1

This patent teaches a method and apparatus for fuel injection in an internal combustion engine. Fuel is injected by means of a high-pressure pump (2) and a pressure accumulator chamber (6) that produces and accumulates a first system pressure. Said system pressure is not used for injection. Instead, a higher injection pressure is produced during injection by means of a pressure multiplier (9). Said pressure can be reduced to shape the course of the injection. The inventive method and device facilitates an improved dosage of the fuel injected and an improved establishment of faster switching times.

Appl. No. Unknown
Based on PCT/DE 03/02530
Prior to first Office Action

US 6,675,773 B1

This patent is in the same family as DE 199 39 428 A1 and is provided as an aid to the examiner.

DE 199 10 970 A1

This patent teaches a fuel injection system (1) comprising a pressure intensifying unit (9) arranged between a pressure accumulation chamber (6) and a nozzle chamber (16). The pressure chamber (14) of the pressure intensifying unit is connected to said nozzle chamber (16) via a pressure line (20). In addition, a bypass line (28) is provided which is connected to the pressure accumulation chamber (6). The bypass line (28) is directly connected to the pressure line. The bypass line (28) can be used to effect pressure injection and is arranged parallel to the pressure chamber (14) so that the bypass line (28) can be passed through regardless of the movement and position of a moveable pressure means (12) of the pressure intensifying unit (9). The fuel injection system increases the versatility of injection.

US 6,453,875 B1

This patent is in the same family as DE 199 10 970 A1 and is provided as an aid to the examiner.

WO 03/031802 A1

This publication teaches a fuel injection device (1) for internal combustion engines comprising several injection valves (4), each arranged in a fuel injection line (3). Each injection valve comprises an injection chamber (13), a control chamber (17), and a valve member (8) which controls the injection holes (12) of the injection chamber (13). The valve

Appl. No. Unknown
Based on PCT/DE 03/02530
Prior to first Office Action

member can be actuated by means of a first control surface (14) situated in the injection chamber (13), operating in the valve opening direction. A second control surface (16), situated in the control chamber (17), operates in the valve closing direction against the effect of a closing spring (10). A piston (2) can be moved in the compression direction and, on the face side, delimits a first compression chamber (18) linked to the injection line (3) for producing the injection pressure. A valve (25) controls pressure build-up in said first compression chamber (18) and a second valve (26) controls pressure build-up in said control chamber (17). According to the present invention, the piston (2) delimits a second compression chamber (20), linked to the control chamber (17), by means of an annular shoulder (19).

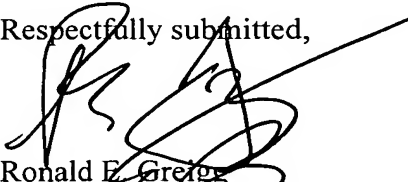
US 2004/0046061 A1

This patent is in the same family as WO 03/031802 A1 and is provided as an aid to the examiner.

Examination of this application is respectfully requested.

Date: April 25, 2005

Respectfully submitted,



Ronald E. Greigg
Registration No. 31,517
Attorney for Applicant

GREIGG & GREIGG, PLLC
1423 Powhatan Street, Suite One
Alexandria, VA 22314
Telephone: 703-838-5500
Facsimile: 703-838-5554
REG/elb
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Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1 of 1

JC13 Rec'd PCT/PIO 25 APR 2005
Number

Application Number	
Filing Date	April 25, 2005
First Named Inventor	Gerhard GEYER
Art Unit	
Examiner Name	
Attorney Docket Number	R.303670

U.S. PATENT DOCUMENTS

[illegible]

FOREIGN PATENT DOCUMENTS

[illegible]

Examiner
Signature

Date	
Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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